

## Full Length Article

# Merger-specific trust cues in the development of trust in new supervisors during an organizational merger: A naturally occurring quasi-experiment

Jukka Lipponen<sup>a,\*</sup>, Janne Kaltiainen<sup>a,b</sup>, Lisa van der Werff<sup>c</sup>, Niklas K. Steffens<sup>d</sup>

<sup>a</sup> University of Helsinki, Finland

<sup>b</sup> Finnish Institute of Occupational Health, Helsinki, Finland

<sup>c</sup> Irish Institute of Digital Business, Dublin City University, Ireland

<sup>d</sup> University of Queensland, Australia

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## ABSTRACT

Organizational mergers and subsequent restructurings often create situations in which employees are assigned a new supervisor and they start to form a new relationship. In this study, we investigated how the development of trust in a new supervisor is affected by trust cues specific to the merger context. We conducted a quasi-experiment using three-wave longitudinal data to follow the development of trust throughout two years. About half of the participants were assigned a new supervisor between pre-merger (Time 1) and first post-merger (Time 2) measurement time points, while the remaining participants continued to work with the same supervisor. Results showed that new supervisor's outgroup membership prior to the merger was negatively related, while favorable outgroup attitudes and perceptions of top management reliability were positively related to the development of trust. These cues were important especially in the early phase of the relationship but their relative importance decreased over time.

## Introduction

Trust is essential for the effective functioning of organizations. When individuals trust each other they cooperate without the need for monitoring or self-protective behaviors (Mayer & Gavin, 2005). Indeed, trust is an important predictor of a range of employee attitudes and behaviors (Colquitt, Scott, & LePine, 2007; Dirks & Ferrin, 2002), as well as team and organizational level outcomes (de Jong, Dirks, & Gillespie, 2016; Fulmer & Gelfand, 2012). In the context of mergers, trust is an important issue because human factors explain a significant part of why the majority of mergers can be considered as financial failures (Thanos & Papadakis, 2012), and why the social costs of mergers are often a grave concern (Giessner, Horton, & Humborstad, 2016). Furthermore, studies have shown that employees' trust in leaders during organizational change is positively associated with change acceptance, positive expectations towards the change, and favorable responses to leaders' decisions (for reviews, see Fugate, 2013; Oreg, Vakola, & Armenakis, 2011). At the same time, research shows that trust in leaders typically decreases substantially during organizational change (Morgan & Zeffane, 2003) posing theoretically and practically central questions about the nature of factors that may shape the development of trust in leaders following mergers.

Although leadership succession (that involves breaking a relationship with a prior leader to form a new relationship with the successor; Gordon & Rosen, 1981) may be an integral part of organizational change, they are not limited to major restructurings or mergers. Rather, supervisory changes and interactions with a new manager are part of everyday organizational life such as among newcomers, project-based employees, and those being promoted or relocated within the organization. For example, in a nationwide representative survey more than 40% of the Finnish workforce reported that they have personally faced leader succession recently (Sutela & Lehto, 2014). Nevertheless, such events are surprisingly understudied. One obvious reason for the dearth of such studies is that field studies are especially difficult to execute because of the need to wait for naturally occurring succession events (Ballinger, Schoorman, & Lehman, 2009). Furthermore, existing leader succession research has focused on changes in CEO and top management transitions (e.g., Grusky, 1963) and demonstrating group-level "leader succession effect" on organizational performance (Kesner & Sebor, 1994). Less attention has focused on leader transitions at lower levels of the organization such as in teams (Kalmanovich-Cohen, Pearsall, & Christian, 2018) or supervisor-subordinate dyads (Ballinger & Schoorman, 2007). This omission is significant, because lower-level leaders are usually psychologically and physically closer to employees

\* Corresponding author.

E-mail address: [jukka.lipponen@helsinki.fi](mailto:jukka.lipponen@helsinki.fi) (J. Lipponen).

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(Lam, Lee, Taylor, & Zhao, 2018). Furthermore, we are aware of only one study concentrating explicitly on the development of trust in the new leader (Ballinger et al., 2009), and to our knowledge, there are no longitudinal field examinations of the factors that may explain formation of trust in these new relationships. Thus our knowledge on trust development is still very limited, and this is an issue we seek to address.

Although considerable theoretical work has been devoted to clarifying the process of trust development and its antecedents (e.g., Kramer & Lewicki, 2010; Lewicki & Bunker, 1996; Lewicki, Tomlinson, & Gillespie, 2006), a lack of experimental and longitudinal research means that these theoretical models have not been properly tested. Moreover, trust theory does not tend to incorporate an understanding of the context in which trust development is studied, which has restricted our understanding of boundary conditions and context specific patterns in trust development (Li, 2012; Rousseau & Fried, 2001). Given the dynamic nature of trust, studying it in the context of key organizational events or transitions is critical to developing a more nuanced understanding of changes in trust over time (van der Werff & Buckley, 2017). The current study addresses the aforementioned issues by examining how merger-specific trust cues—supervisors' pre-merger group membership, attitudes towards the merger partner, and perceptions of top management's reliability—influence subordinates trust towards supervisors in the context of an organizational merger. We achieve this by means of a longitudinal and naturally occurring quasi-experimental design that captures within-person fluctuations (i.e., changes) in trust in new supervisors throughout two years of an organizational merger (see Fig. 1, for an overview of the model).

While changes in trust are somewhat inevitable during the transition from prior leader to new leader, the transition period of an organizational merger also has the potential to trigger changes in pre-existing leader–follower relationships. During uncertain times individuals become more mindful about issues of vulnerability and trust (Dirks & Ferrin, 2001; Li, 2012) and are likely to attend to and process trust-relevant information more actively resulting in a reassessment of their trust in leadership (Lines, Selart, Espedal, & Johansen, 2005; Morgan & Zeffane, 2003). Although our main focus here is to investigate the effects of trust cues in new relationships, it is important to compare the relative importance of trust cues in new and old relationships. Only in this way can we reliably distinguish the trust cue effects that are unique

in new relationships from those caused by changes in general.

Addressing these issues, we report a study that was conducted in the context of a merger of two previously separate, civil service organizations operating in a major Finnish city. Three waves of data were collected and the merger came into effect between the first and the second measurement time points. In the present quasi-experiment, about half of our study's participants were assigned a new supervisor between pre-merger (Time 1) and first post-merger (Time 2) measurement time points, while the remaining participants continued to work with the same supervisor during the transition. This design allows us to assess the unfolding longitudinal relationship between merger-specific trust cues and trust in supervisor and to compare participants whose supervisor had changed (i.e., the treatment group) with those whose supervisor had not changed (i.e., the control group). Furthermore, by utilizing three-wave, longitudinal data, we test whether among those whose supervisors changed, the predictive relationships from trust cues to trust in supervisor are stronger at the first phase of the newly forming relationships (i.e., from Time 1 to Time 2) than during subsequent trust development (i.e., from Time 2 to Time 3). Thus, our study represents a unique, quasi-experimental longitudinal design (Grant & Wall, 2009) that is especially suitable for examining the role of trust cues in the change trajectories of trust in supervisor in the context of organizational change.

### The role of trust cues in new relationships

In the present study, we draw upon Mayer, Davis, and Schoorman's (1995) approach to trust that distinguishes between the perceptions of an individual's trustworthiness and the psychological state of trust. We focus on trust in one's supervisor and conceptualize trust as a psychological state of willingness or readiness to be vulnerable to the actions of another party (Mayer et al., 1995; Rousseau, Sitkin, Burt, & Camerer, 1998).

Prevailing theories of trust in new relationships (McKnight & Chervany, 2006; McKnight, Cummings, & Chervany, 1998; Meyerson, Weick, & Kramer, 1996) suggest that trust in supervisors may not have a zero baseline, and argue that the formation of initial trust is based on various heuristic cues. Individuals can be seen as vigilant social perceivers who are attentive to numerous cues within their environment

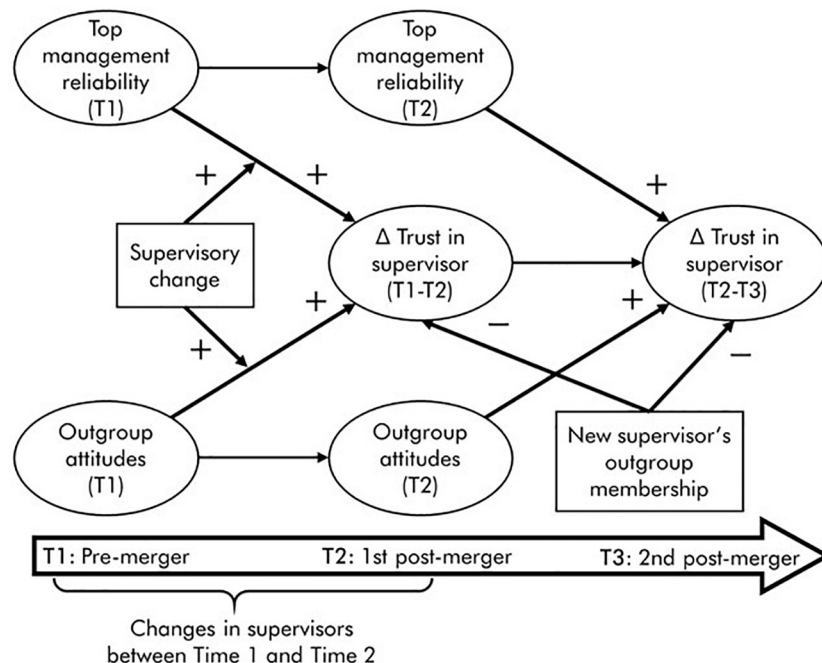


Fig. 1. An overview of the research model. T1 = Time 1; T2 = Time 2; T3 = Time 3. Symbol Δ indicates occurred within-person change.

and interpret various personal, social, and situational factors as diagnostic or predictive of others' likely trustworthiness. [Kramer and Lewicki \(2010\)](#) draw a distinction between presumptive trust cues and personal trust cues. Presumptive trust cues refer to social (e.g., shared group memberships) and environmental information about the particular context in which the trust-related transaction is embedded, while personal trust cues describe the attributes of the trustee (e.g., a person's trustworthiness). The cumulative presence or absence of these cues influences individuals' expectations about others' trustworthiness especially in the earlier phases of a developing relationship ([Bacharach & Gambetta, 2001](#); [Kramer & Lewicki, 2010](#)).

As a relationship develops, personal cues become available through experiences in interacting with the person and therefore reliance on heuristic cues is thought to diminish ([McKnight & Chervany, 2006](#)). Preliminary evidence from cross-sectional studies supports the idea that trust is predicted by different antecedents in new and established relationships (e.g., [Levin, Whitener, & Cross, 2006](#)). A previous attempt to demonstrate this pattern longitudinally in the context of relationships with coworkers was not successful ([van der Werff & Buckley, 2017](#)). However, in the context of a merger and supervisory changes, we expect that merger-specific presumptive trust cues are likely to be influential for those employees who are assigned a new supervisor. Furthermore, the merger-specific presumptive trust cues (a supervisor's group membership, outgroup attitudes, and top management reliability) should be important at the start of a relationship (i.e., initial trust formation) but have a diminishing impact over time (i.e., subsequent trust development). Drawing on social identity theorizing ([Tajfel & Turner, 1986](#); [Turner, Hogg, Oakes, Reicher, & Wetherell, 1987](#)) and the convergence model by [Sluss and Ashforth \(2008\)](#) we develop further our understanding of initial trust in supervisor and explore the impact of three merger-specific trust cues: supervisors' pre-merger group membership; attitudes to the pre-merger partner organization; and perceptions of top management reliability.

## Merger-specific trust cues

### *Supervisor pre-merger group membership*

Mergers involve at least two different groups (organizations), and are therefore likely to have important group-based and group-level consequences. Indeed, various case studies have shown that mergers are a potential arena for antagonistic intergroup relations and the occurrence of us-versus-them dynamics ([Gleibs, Noack, & Mummendey, 2010](#); [Haunschild, Moreland, & Murrell, 1994](#); [Terry & Callan, 1998](#)). The boundaries between the two pre-merger organizations become highly salient at the time of the merger announcement but do not disappear directly after the merger officially or legally comes into effect. Instead, in the beginning the most salient social categories and trust cues that define organizational life are undoubtedly employees' own premerger organization (the ingroup) and the merger partner (the outgroup). For example, research shows that it usually takes two years until most employees are psychologically integrated by identifying with the newly formed organization ([Edwards, Lipponen, Edwards, & Hakonen, 2017](#)).

During merger-related restructuring, intergroup dynamics may become highly salient when an employee's newly assigned supervisor represents the other party of the merger — the former outgroup. Social categorization processes deriving from ingroup-outgroup distinctions (and perceptions of real or symbolic competition between the two groups) may understandably have an important bearing on employee trust in their new supervisors ([Williams, 2001](#)). There is strong evidence providing support for the idea that people evaluate their own ingroup (e.g., gender, profession, organization) and ingroup members more favorably than outgroups and their members ([Brewer, 1999](#); [Hogg & Terry, 2000](#)). Indeed, social identity theory ([Tajfel & Turner, 1986](#)) and self-categorization theory ([Turner et al., 1987](#)) argue that

cognition, affect, and behavior in organizations are in large part produced by the categorization of self and others in terms of social groups, and suggests that at first, a new supervisor is likely to be perceived as either an ingroup or outgroup member (as “one of us” or “one of them”). People also accentuate similarities among ingroup members and differences between ingroup and outgroup members, and they respond more favorably, both perceptually and behaviorally, to ingroup than outgroup members ([Duck & Fielding, 1999](#); [Mullen, Brown, & Smith, 1992](#)).

Although scholars have argued that group memberships may serve as a trust cue and that ingroup members are more easily trusted than outgroup members (e.g., [McKnight et al., 1998](#); [Williams, 2001](#)) empirical tests of this idea are still rather scarce. In this regard, it has been found that interpersonal trust is higher when the trustor and trustee belong to same cultural-ethnic ingroup ([Jiang, Chua, Kotabe, & Murray, 2011](#)). Furthermore, research shows that in family businesses, family member employees tend to have higher trust in their leaders than do non-family member employees ([Davis, Allen, & Hayes, 2010](#)). Outside of the traditional trust research, closely related social psychological studies have shown that people prefer and favor ingroup over outgroup leaders ([Duck & Fielding, 1999](#)) and that they perceive outgroup members as less honest and cooperative than ingroup members ([Brewer & Silver, 1978](#); for meta-analytic evidence, see [Balliet, Wu, & De Dreu, 2014](#)). Specifically, research suggests that people are likely to be skeptical of an outgroup leader and expect to be treated negatively by them ([Duck & Fielding, 1999](#)) and view outgroup members with suspicion and expect them to show discriminatory behavior against their ingroup (e.g., [Horwitz & Rabbie, 1989](#)). Moreover, it has been shown that people have a double standard in responding to ingroup and outgroup leaders, as they often tend to forgive transgressions by ingroup leaders but not outgroup leaders ([Abrams et al., 2013](#)).

However, previous research on reactions to ingroup and outgroup leaders has been restricted to experimental laboratory settings (e.g., [Abrams et al., 2013](#); [Duck & Fielding, 1999](#)) or cross-sectional surveys ([Davis et al., 2010](#); [Jiang et al., 2011](#); [Platow, Haslam, Reicher, & Steffens, 2015](#)). While experiments are especially suitable for establishing cause-and-effect relations, they do not provide insight into the fundamental question on how lasting the effects of social categorization processes are, for example, in predicting the long-term development of relationships. Studying the duration of these effects and whether the relative importance of these effects vary at different phases of the relationship is therefore of great theoretical and practical importance. Unfortunately, in addition to methodological limitations, the cross-sectional field research conducted so far suggests inconsistent results with evidence that relationship length moderates the association between demographic similarity and perceptions of trustworthiness in supervisor-subordinate relationships ([Levin et al., 2006](#)) but that it does not at an inter-organizational level ([Bstielier, Hemmert, & Barczak, 2017](#)). According to the authors these inconsistent results suggest that the importance of certain demographic differences in new relationships may considerably vary depending on the context ([Bstielier et al., 2017](#); [Levin et al., 2006](#)).

Based on prevailing theoretical frameworks of trust in new relationships (e.g., [Kramer & Lewicki, 2010](#); [McKnight & Chervany, 2006](#); [Williams, 2001](#)) and given the obvious importance of pre-merger organizational membership in the context of our study, we expect that when a new, post-merger supervisor originates from one's own ingroup, employees' initial reaction is likely to be more positive, therefore fostering trust development towards the new supervisor. Furthermore, when an employee gains more first-hand information about and experiences with the new supervisor, the role of pre-merger group membership as trust cue is likely to diminish ([McKnight & Chervany, 2006](#)). Indeed, categorization based trust cues are thought to underpin a presumptive form of swift trust ([Kramer & Lewicki, 2010](#)) that is superseded once sufficient information is available to make a more nuanced, knowledge based evaluation of various characteristics

(Robert, Dennis, & Hung, 2009). Trust theory discussing this process aligns with arguments from social categorization scholars who suggest that opportunities for contact, interaction, and interdependence reduce the influence of social categorization in perceiving others (Anastasio, Bachman, Gaertner, & Dovidio, 1997). This leads to our first hypotheses.

**Hypothesis 1a.** For employees who experience a supervisory change, new supervisor's outgroup membership prior to the merger will be negatively associated with changes in trust in a supervisor.

**Hypothesis 1b.** For employees who experience a supervisory change, new supervisor's outgroup membership prior to the merger will be more strongly associated with initial trust formation (from Time 1 to Time 2) than with subsequent trust development (from Time 2 to Time 3).

#### *Attitudes about partner pre-merger organization and top management reliability*

In addition to supervisors' group membership, social identity theorizing on intergroup leadership and initial trust theory suggests merger-specific trust cues that provide information about the new social context and the leadership team responsible for managing the merger is likely to influence employees' trust towards their supervisors. As employees anticipate and experience socialization into the new organization, decisions to make themselves vulnerable to their supervisor through trust are embedded in the wider context of the newly merged organization. We focus our attention specifically on two aspects of this wider context: employee beliefs about the partner pre-merger organization and their perceptions of the top management team. These referents are likely to be salient to employees during the merger period as the partner organization is the focal "other" in the merger situation while the top management team are directly responsible for leading the merger process.

In further considering the role of these cues, we draw on parallels between initial trust theories (e.g., Kramer & Lewicki, 2010; McKnight et al., 1998) and the convergence model by Sluss and Ashforth (2008). Specifically we argue that there is a generalizing effect between attitudes towards structurally nested targets (top management team, merger partner, and supervisor) that are embedded and salient in a newly merged organization. The convergence model starts with the observation that every large organization consists of numerous nested and cross-cutting formal and informal subgroups (Alderfer, 1987; Hornsey & Hogg, 2000; Reichers, 1985). Although employees usually have specific attitudes towards distinct targets or subgroups, the model asserts that generalization across different targets occurs especially when two stimuli are temporally and/or cognitively tied together (Sluss & Ashforth, 2008).

In the context of a merger associated with supervisory changes, both the merger partner organization and the new supervisor epitomize the same ongoing and broader restructuring process. Individuals' attitudes towards employees of the merger partner are important because they are members and representatives of the new emerging organization. Negative outgroup attitudes have consistently been found to be related to various types of threat (e.g., Riek, Mania, & Gaertner, 2006) and as the new merged organization (superordinate group) comprises of two (pre-merger) subgroups, negative attitudes towards the merger partner can color the lenses through which the merger process is seen. Thus, negative outgroup attitudes are likely to inhibit employees' willingness to be vulnerable to other employees, including the new supervisor (e.g., Pittinsky, Matthew Montoya, Tropp, & Chen, 2007). Conversely, pre-existing, positive outgroup attitudes are likely to serve as a contextual safeguard for trust building. If an employee has general positive attitudes towards members of the merger partner by, for instance, regarding them as competent and reliable, these attitudes should act in manner of a trust cue and therefore generalize to the relationship with

his or her new supervisor (who may, or may not, be a member of that organization).

Finally, during mergers employees pay a great deal of attention to the words and actions of the top management team as they are in a position of power and authority to shape the merger process. The top management team tends to be a salient point of attention in organizational sense-making (Weick, 1995) and it has been recognized to play a central role in the trust-building process (Kramer & Lewicki, 2010). Mergers are a clear example of top-down change processes where an organization's top management is usually a key player by being responsible for the implementation of the required changes, the launching the new strategy, the allocation of resources, and the encouragement of collaboration between the merger partners. As the top management is responsible for the design of the new structure of the organization, employee perceptions of the top management reliability should serve as structural assurance and an influential cue about the extent to which it is sensible and safe to trust the new supervisor. Therefore, perceptions of high top management reliability make it easier for an employee to trust the new supervisor. As the top management team represents the most influential subgroup in the organization and shapes how merger-related changes unfold, beliefs about top management reliability is likely to generalize to other targets (Sluss & Ashforth, 2008) therefore fostering the development of trust in one's new supervisor.

Taken together, in the absence of common history and personal trust cues (McKnight et al., 1998) and in line with the convergence model (Sluss & Ashforth, 2008), positive outgroup attitudes and top management reliability are expected to serve as trust cues and thus be positively related to trust in new supervisors. As with Hypothesis 1 and in line with the idea that reliance on heuristic cues is thought to weaken over time (McKnight & Chervany, 2006) as an employee gains more first-hand information about the new supervisor, we expect that the effects of positive outgroup attitudes and top management reliability are likely to decrease. We therefore propose the following hypotheses:

**Hypothesis 2a.** For employees who experience a supervisory change, prior favorable outgroup attitudes will be positively associated with changes in trust in a supervisor.

**Hypothesis 2b.** For employees who experience a supervisory change, prior favorable outgroup attitudes will be more strongly associated with initial trust formation (from Time 1 to Time 2) than with subsequent trust development (from Time 2 to Time 3).

**Hypothesis 2c.** Prior favorable outgroup attitudes will be more strongly associated with trust formation (from Time 1 to Time 2) for employees whose supervisor changes than for those whose supervisor does not change.

**Hypothesis 3a.** For employees who experience a supervisory change, perceived top management reliability will be positively associated with changes in trust in a supervisor.

**Hypothesis 3b.** For employees who experience a supervisory change, perceived top management reliability will be more strongly associated with initial trust formation (from Time 1 to Time 2) than with subsequent trust development (from Time 2 to Time 3).

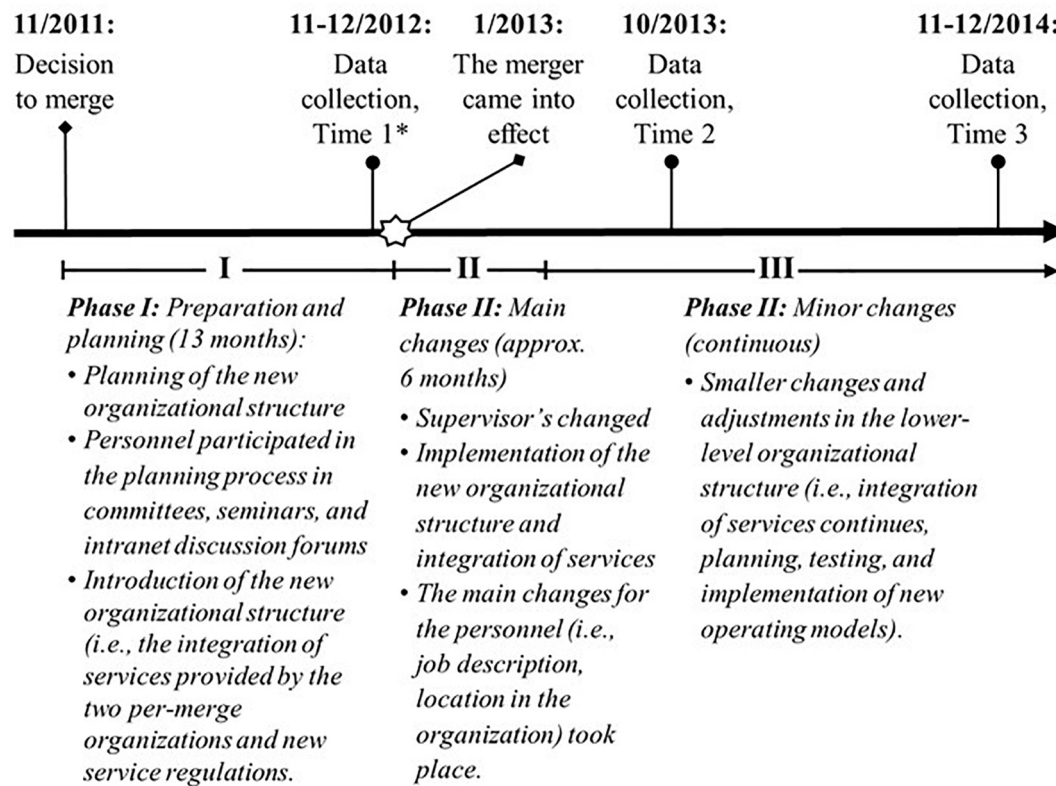
**Hypothesis 3c.** Perceived top management reliability will be more strongly associated with trust formation (from Time 1 to Time 2) for employees whose supervisor changes than for those whose supervisor does not change.

## Method

### *Study context and procedure*

The present study was conducted across two years of an organizational merger of two civil service organizations, which affected





\* At Time 1, data collection ended at 12th of December, 2012

Fig. 2. Timeline of the merger process data collection, and supervisor changes.

approximately 15,000 employees (the timeline is presented in Fig. 2). The official merger date and restructuring fell between the first and the second measurement time points. At Time 1 the pre-merger organization A consisted of five divisions and 23 larger units (which themselves consisted of several hundred smaller units), and the partner pre-merger organization B consisted of six divisions and 50 larger units (which also comprised several hundred smaller units). At Time 2 the post-merger organization consisted of six divisions and 112 larger units (consisting of 1114 smaller units), thus the restructuring affected the division structure and unit structure at both levels. This ample transformation also explains the high prevalence of changes in supervisor-subordinate relationships in our sample. During the merger, there were no substantial layoffs as only 49 employees were not given a position in the merged organization, while the number of personnel changes and the rate of turnover remained roughly the same after the merger.

At the end of November 2011, the decision to merge two previously separate organizations was made by the city council of a major Finnish city. The top management teams of the organizations did not have control over the decision concerning the merger, yet they were responsible for its planning and implementation. The decision was followed by an intense, one-year period of planning and the actual changes for the personnel took place after the first data collection point. When the timeline for the merger was set in November 2011, it was acknowledged that the selected merger strategy and composition of the new organization would lead to major changes regarding the operation, culture, and leadership of both organizations (Deloitte, 2011). The consulting group Deloitte (2011) provided consulting services to the city council and emphasized the importance of allocating sufficient time and resources for the development and implementation of the new merged organization. Thus, considering the size of the restructuring process, the merger was carried out rather swiftly.

The invitation to participate in the study was sent via email by the

organization followed by two reminder emails. Employees were permitted to participate in the study during work hours. Prior to designing the questionnaire, we interviewed 10 employees to familiarize ourselves with the organization and piloted the questionnaires with three to five employees before each data collection. The data presented in this paper were collected as part of a larger organizational study that sought to monitor the merger process.

#### Sample

The sample consisted of 546 employees who experienced an organizational merger (as described above) and responded to our longitudinal survey study at all three time points (see Fig. 2 for the timeline). At Time 2, almost half of these participants ( $n = 248$ ; 45.4%) reported that their supervisors had changed after the official merger date (i.e., between Time 1 and Time 2), while the other half ( $n = 298$ ; 54.6%) reported that their supervisors had not changed. Notably, the power-loss index (0.992) did not indicate any substantial loss of power to detect possible differences between the groups due to differences in the group sizes (where a value of 1.0 represents no loss in power; Rosenthal, Rosnow, & Rubin, 2000). Of the 248 participants who reported that their supervisor had changed, 196 participants (79.0%) indicated that their new supervisor originated from the same pre-merger organization as the participant, while 52 participants (21.0%) indicated that their new supervisor originated from the other pre-merger organization (i.e., representing ingroup and outgroup pre-merger group membership, respectively).

The population size was roughly 15,000 across the duration of our study and about 25% of the population ( $n = 3679$ ) responded to the Time 1 survey. Of those respondents, 1181 (32%) participated at Time 2. Finally, 623 (53%) of those respondents participated at Time 3. Of the 623 employees who completed our survey at all the three time

points, we excluded 77 participants for one of the following reasons. First, we removed participants from the top ( $n = 1$ ) and middle management ( $n = 46$ ). We did this because in this study we were interested in the relationships between employees' perceptions of top management reliability (not managers' perceptions of their own reliability) and trust in supervisor as constructs with separate referents. For the middle management, the top management and supervisor referred to the same entity (as the top management were middle management's immediate supervisors). Second, we excluded those participants who did not report whether their supervisors had changed or not ( $n = 7$ ). As a third step, of the participants who reported that their supervisor had changed, we excluded those who either did not report what pre-merger organization their supervisor originated from ( $n = 6$ ), reported that their supervisor was from neither of the two pre-merger organizations ( $n = 15$ ), or reported that they had a previous work history with the newly appointed supervisor ( $n = 2$ ).

To investigate whether participant attrition over time led to non-random sampling, we examined whether the probability of remaining in the sample at the later time points was predicted by the examined variables from prior time points (Goodman & Blum, 1996). Logistic regression analyses indicated that among those who responded at Time 1 and at Time 2, focal constructs (i.e., trust in supervisor, top management reliability, and outgroup attitudes) did not predict response at Time 3 ( $p$ -values ranging from  $p = .215$  to  $0.816$ ). Similarly, among those who responded at Time 2, the focal constructs did not predict response at Time 3 ( $p$ -values ranging from  $p = .095$  to  $0.937$ ). However, across Time 1 and Time 2 there was indication of possible non-random sampling as supervisory trust at Time 1 was negatively associated ( $B = -0.14$ ,  $p < .001$ ) with nonresponse at Time 2. Nevertheless, the hypothesized relations from outgroup attitudes and top management reliability on supervisory trust were close to identical among those who responded at Time 1 ( $n = 3679$ ), and those who responded at Time 1 and Time 2 ( $n = 1181$ ). These data suggest that there was no indication that the potential non-random sampling affected the main results of this study.

At Time 1, the average participant was 47.5 years old with between 13 and 15 years of tenure with their organization. Most of the participants were female (87%) and had the equivalent of a bachelor's degree or higher (54%). Slightly over half of the participants were from pre-merger organization A (57%) and the rest were from pre-merger organization B (43%). The majority of participants were employees without supervisor responsibility (82%) while 18% indicated they were supervising other people. Finally, at Time 1, on average participants had been working with their current supervisor for 3 years.

### Research design

In this study, we investigated the unfolding relationships between trust-cues and within-person changes in supervisory trust. We applied a quasi-experimental design with one pre-event (i.e., Time 1) and two post-event (i.e., after possible supervisory changes) measurement time points (Time 2 and Time 3) to test for possible differences in strength in the hypothesized relationships. Such differences were expected (a) across different time spans (between Time 1 and Time 2 and between Time 2 and Time 3), and (b) between the treatment group and the control group (i.e., between participants whose supervisor changed between Time 1 and Time 2 and those whose supervisor did not change).

As it was not possible to randomly assign participants to treatment and control groups (because changes in employees' supervisors resulted naturally from the organizational restructuring), we conducted several additional analyses to examine whether or not the treatment and the control group differed in significant ways. A series of  $t$ -tests revealed no statistically significant differences between the groups regarding participants' age ( $t = 0.75$ ,  $p = .455$ ), gender ( $t = -0.33$ ,  $p = .742$ ), educational background ( $t = -0.20$ ,  $p = .842$ ), tenure ( $t = 0.25$ ,

$p = .804$ ), pre-merger organization ( $t = 0.48$ ,  $p = .635$ ), position in the organization (i.e., employee or supervisor;  $t = 1.65$ ,  $p = .099$ ), time working with the supervisor at Time 1 ( $t = 1.21$ ,  $p = .226$ ) and whether the supervisor had the same gender as the participant ( $t = -0.26$ ,  $p = .798$ ). However, the level of trust in supervisor at Time 1 differed statistically significantly between the treatment ( $M = 3.41$ ) and control groups ( $M = 3.63$ ,  $t = 2.73$ ,  $p = .006$ ). We discuss the implications of this difference in the Discussion section.

In our research design, the independent and dependent variables in both the treatment and control groups are endogenous, thus limiting causal inferences (see also Discussion). Even though we did not examine an effect of supervisory change per se, we nevertheless examined the potential causal effects of the exogenous variable, supervisory change, on our dependent variables by conducting a difference-in-differences (DID) analysis (see Antonakis, Bendahan, Jacquart, & Lalive, 2010). These results suggested that supervisory change (i.e., the treatment itself) was not associated with change in top management reliability ( $\beta = -0.01$ ,  $p = .790$ ) nor in outgroup attitudes ( $\beta = -0.06$ ,  $p = .270$ ) from Time 1 to Time 2. In addition, the supervisory change was not associated with supervisory trust from Time 1 to Time 2 ( $\beta = -0.02$ ,  $p = .715$ ) nor from Time 2 to Time 3 ( $\beta = 0.02$ ,  $p = .740$ ). These findings suggest that supervisory change alone is not the common cause for changes in either the independent variables or the dependent variable. Nevertheless, in light of the fact that our independent variables are endogenous, it is important to note that the evidence provided by the study is correlational.

### Measures

In Table 1 we present descriptive statistics and the reliability coefficients of the measures. A full list of items is presented in Table 2.

#### Trust in supervisor

We measured trust in supervisor with four items from Mayer and Davis (1999) on a 5-point scale (1 = *strongly disagree*; 5 = *strongly agree*). The items focused on employees' readiness to be vulnerable and hand over control to the supervisor, consistent with the conceptualization of trust as a psychological state.

#### Outgroup attitudes

Outgroup attitudes were measured using a scale that was adapted from studies focusing on intergroup attitudes in merger contexts (e.g., Lipponen, Olkkonen, & Moilanen, 2004; Terry & O'Brien, 2001) in which respondents rate the employees of the merger-partner on different work-related positive characteristics. Participants indicated how well each of six positive characteristics (unbiased, competent, trustworthy, helpful, sincere, and consistent) described the employees of the merger partner on a 7-point scale (1 = *very poorly*; 2 = *poorly*; 3 = *somewhat poorly*; 4 = *neither poorly nor well*; 5 = *somewhat well*; 6 = *well*; 7 = *very well*).

#### Top management team's reliability

We assessed reliability of the top management team using eight items adapted from Mayer and Davis (1999) that tapped into the competence and integrity evaluation. The set of items was introduced by the following instructions: "The following statements concern the top management of [the organization]. By top management we refer to the head of the [organization] and heads of divisions". In the instruction, *organization* was replaced by the employees' current organization at the time of responding to the survey. Top management reliability was measured on a 5-point scale (1 = *strongly disagree*; 5 = *strongly agree*).

#### New supervisor's pre-merger group membership

Pre-merger group membership was measured by asking respondents from which of the two pre-merger organizations his or her supervisor originated. Together with the information about participants' own pre-

**Table 1**  
Means, standard deviations, Cronbach alphas, and Zero-order correlations for employees whose supervisors did not change ( $n = 298$ ) and for employees whose supervisors changed ( $n = 248$ ) in the merger transition.

Variable	Scale		Supervisor did not change ( $n = 298$ )		Supervisor changed ( $n = 248$ )		Correlations										
	M	SD	$\alpha$	M	SD	$\alpha$	1	2	3	4	5	6	7	8	9	10	11
1. Trust in supervisor (T1)	1-5	3.63	0.96	3.41	0.93	0.75											
2. Trust in supervisor (T2)	1-5	3.59	0.94	3.32	0.95	0.79	0.56***										
3. Trust in supervisor (T3)	1-5	3.46	0.92	3.23	0.96	0.78	0.47***	0.14*									
4. Top management reliability (T1)	1-5	3.05	0.81	2.91	0.88	0.95	0.36***	0.58***	0.25***								
5. Top management reliability (T2)	1-5	2.87	0.79	2.71	0.81	0.93	0.33***	0.29***	0.23***	0.23***							
6. Outgroup attitudes (T1)	1-7	4.90	0.95	4.88	0.92	0.91	0.22***	0.33***	0.23***	0.14*	0.23***						
7. Outgroup attitudes (T2)	1-7	4.93	0.86	4.79	0.99	0.93	0.21***	0.09	0.20***	0.18*	0.25***	0.53***					
8. Outcome favorability (T2)	1-7	3.56	1.41	3.32	1.59	-	0.15**	0.13*	0.18**	0.26***	0.27***	0.11	0.10				
9. Outcome favorability (T3)	1-7	3.56	1.36	3.51	1.49	-	0.14*	0.28***	0.35***	0.24***	0.28***	0.13*	0.11	0.21***			
10. Participant's pre-merger organization	0/1	0.44	0.50	0.42	0.49	-	-0.02	-0.03	-0.04	0.21***	0.12*	-0.07	-0.06	-0.03	-0.10		
11. New supervisor's outgroup membership <sup>a</sup>	0/1	-	-	0.21	0.41	-	-	-	-	-	-	-	-	-	-	-	-

Note: Correlations for those whose supervisor did not change ( $n = 298$ ), are below the diagonal, and for those whose supervisor changes between Time 1 and Time 2 ( $n = 248$ ) are above the diagonal.

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

<sup>a</sup> New supervisor's outgroup membership coded as 0 = same pre-merger organization as participant, 1 = different pre-merger organization than participant. Correlations for full sample ( $N = 546$ ) can be found in Appendix Table 1

**Table 2**

Factor Loadings for the Multigroup Three-Factor Confirmatory Factor Analysis

Item	Item loadinas
	fT1,T2,T3)
<i>Trust in supervisor</i>	
1. 1. If I had my way, I wouldn't let my supervisor have any influence over issues that are important to me. (R)	-.84 / -.85 / -.79 .78 / -.76 / -.84
2. I would be willing to let my supervisor have complete control over my future in this work aroup.	.63 / .70 / .68 .69 / .72 / .68
3. I really wish I had a good way to keep an eye on my supervisor. (R)	-.70 / -.63 / -.62 -.50 / -.58 / -.61
4 I would be comfortable giving my supervisor a task which was critical to me.	.82 / .80 / .63 .66 / .69 / .64
<i>Top management reliability</i>	
1. Top management is very capable of performing its job.	.87 / .86 .87 / .89
2. Top management is known to be successful at the things it tries to do.	.77 / .77 .83 / .82
3. I feel very confident about top management's skills.	.90 / .88 .93 / .91
4 Top management is well qualified.	.91 / .84 .91 / .79
5. Top management always sticks to its word	.84 / .84 .84 / .81
6 Top management tries hard to be fair in dealings with others	.82/ .81 .82 / .74
7. Top management's actions and behaviors are not very consistent (R.)	-.62 / -.71 -.67 / -.52
8 Sound principles seem to guide top management's behavior.	.76 / .83 .85 / .85
<i>Outgroup attitudes</i>	
1. Balanced	.75 / .74 .82/ .81
2. Competent	.84 / .83 .75 / .82
3. Trustworthy	.90 / .87 .89 / .90
4 Helpful	.80 / .82 .84 / .82
5. Sincere	.82 / .82 .81 / .82
6 Consistent	.81 / .80 .72 / .79

Note Results for the group supervisor did not change ( $p = 298$ ) are presented above the group for which the supervisor did change ( $n = 248$ ). T1 = Time 1; T2 = Time 2; T3 = Time 3. Reverse items are marked with (R). Completely standardized maximum likelihood robust parameter estimates are presented. All estimates are  $p < .001$ .

merger organization, we created a variable which we coded as 0 if the supervisor originated from the same (ingroup) pre-merger organization as the participant ( $n = 196$ ), and as 1 if the supervisor originated from the other partner (outgroup) pre-merger organization that the

participant was not part of ( $n = 52$ ).

#### Control variables

Dyadic trust theory suggests that the outcomes of previous interactions are likely to influence future perceptions of trust (Lewicki & Bunker, 1996). As not all employees were affected by the merger to the same degree, we controlled for the effect of self-reported outcome favorability of the occurred merger-related changes. Outcome favorability was measured on a 7-point scale (1 = *mostly negative*; 7 = *mostly positive*) at Time 2 and Time 3. Furthermore, we controlled for the effect of participants' pre-merger organization (coded as 0 = *organization A*; 1 = *organization B*) as prior studies have shown that the experience of a merger can significantly differ depending on employees' pre-merger organization (Lipponen, Wisse, & Jetten, 2017). We also controlled for the impact of previous changes in supervisory trust (i.e., from Time 1 to Time 2) on subsequent changes (i.e., from Time 2 to Time 3), as prior changes can influence how the construct changes over subsequent time points (e.g., Grimm, An, McArdle, Zonderman, & Resnick, 2012; McArdle, 2009).

#### Analytical framework

We utilized structural equation modeling (SEM) in Mplus 7.2 (Muthén & Muthén, 2012) to estimate models with latent factors. Models were estimated by using the maximum likelihood estimation with robust standard errors to account for non-normal distributions that were found for some of supervisory trust items. Model comparison analyses were conducted by using Satorra-Bentler scale corrected chi-square difference test (Satorra & Bentler, 2001). We estimated covariances among the items' disturbances over time as recommended for longitudinal structural equation modeling (Little, 2013; Ployhart & Vandenberg, 2010).

To avoid listwise deletion due to missing values in the change outcome favorability variables ( $n = 4$  at Time 2,  $n = 3$  at Time 3), we brought these two variables as part of the model by estimating their variances, thus enabling those few missing values to be estimated by the maximum likelihood technique. Control variables were regressed on latent variables as shown in Appendix 1 Fig. 1.

We utilized latent change score modeling (LCSM; Ferrer, Balluerka, & Widaman, 2008; McArdle & Hamagami, 2001; see Appendix for the description of the model) as it is the most suitable analytical framework for our study for following three reasons. First, LCSM captures within-person changes in the constructs and thus enables us to test the hypothesized relationships from antecedent variables to within-person changes in supervisory trust. In LCSM, within-person changes are modeled by regressing latent Time 2 variable on its corresponding Time 1 variable with a fixed path of 1 and by setting the residuals of this regression to zero (McArdle & Hamagami, 2001). Additionally, the change score is regressed on Time 2 latent variable with a fixed coefficient of 1. The resulting change score represents within-person changes across two time points and is free of measurement error (McArdle, 2009). The latent change score for the subsequent time span is construed in a similar way by using Time 2 and Time 3 variables. Thus, in LCSM there is no need to subtract two scores from each other to create a difference score, a procedure that is associated with methodological problems (Edwards, 2001; Henk & Castro-Schilo, 2016).

Second, in LCSM the change score spans over one time interval. Thus, we are able to test how prior scores of antecedent variables (i.e., top management reliability and outgroup attitudes) are related to two distinct phases of trust development towards supervisor: initial (i.e., from Time 1 to Time 2) and subsequent (i.e., from Time 2 to Time 3) trust formation. This contrasts with growth curve modeling, which is unsuitable for the present study because in this all time points are incorporated into one slope factor. Finally, in LCSM we are able to correct for possible group-differences in the pretest scores (e.g., mean of supervisory trust at Time 1) by setting the means of supervisory trust at

Time 1 to zero in both groups. Furthermore, as we regressed pre-manipulation scores of supervisory trust (i.e., Time 1) to change in supervisory trust (i.e., from Time 1 to Time 2), we were able to rule out potential spurious within-group variation in the supervisory trust change score (see McArdle & Prindle, 2008).

Furthermore, by using SEM we are able to test whether any of the estimated model parameters differ statistically from each other by conducting model comparison tests based on chi-square differences. Specifically, in these analyses we compare a constrained model where a specific parameter is set equal between groups or over time to model where this parameter is estimated freely. By this, we are able to test for statistically significant differences in the relationships from trust cues to trust in supervisor at different phases of the merger process as well as between treatment and control groups.

It is possible that some of the participants shared the same supervisor at any of the three measured time points. Despite the benefits of controlling for the nestedness in data structures, we are not able to take into account the possible nested structure of the data as we decided not to ask respondents to name their supervisors because participants were known to be rather concerned about anonymity and confidentiality. This decision was made based on our discussions with the representatives of the target organization(s) and information we obtained while pre-testing the first-round questionnaire. Participants were asked to report the unit in which they worked at within the organization (which considerably varied during the data collection from Time 1 to Time 2 due to major organizational restructuring), but this information is not sufficient to analyze the potential effects of nesting in our data. This is because within each unit there were two or more persons in supervisory positions at all three time points. Thus, even if several participants worked in the same organization unit, it does not mean that they all had the same supervisor. Of all our respondents as many as 45 (7.2%) choose the option "I don't want to answer" when they were asked to report their own unit at Time 2. Given that reporting one's unit is clearly less revealing and less sensitive issue compared to naming one's supervisor, this undoubtedly reflects genuine concerns regarding confidentiality and anonymity among our respondents although these issues were heavily emphasized both in our questionnaire and its' cover letter.

At Time 2 and 3 our respondents represented all six divisions, 90 different larger units, and 340 different smaller units. Of the respondents, 224 were the only respondents from their smaller units, meaning that all these 224 worked under different supervisors. For the rest of our respondents it is in principle possible that they were nested within the same supervisor. However, the likelihood that there are plenty of such cases is relatively low because within each smaller unit there were usually two or more persons in supervisory positions. Using the available information on respondent's unit "as a substitute" for analyzing the potential effects of nesting in our data is not suitable because an employee could be nested within units (and supervisors) in different ways at Time 1 and Time 2 due to major restructuring of the unit structure between these time-points.

## Results

#### Preliminary analyses

Results of the confirmatory factor analyses supported the hypothesized three-factor model of trust in supervisor, outgroup attitudes, and top management reliability as it produced excellent model fit with the data,  $\chi^2(1386) = 1947.30$ ,  $p < .001$ , Comparative Fit Index (CFI) = 0.96, Tucker-Lewis Fit Index (TLI) = 0.95, Root Mean Square Error of Approximation (RMSEA) = 0.04, Standardized Root Mean Square Residual (SRMR) = 0.05. The item loadings of the three-factor model are presented in Table 2. The poor fit indices of a two-factor model where trust in supervisor and top management reliability were collapsed into a single construct,  $\chi^2(1408) = 3112.61$ ,  $p < .001$ ,



**Table 3**

Tests of measurement invariance over time and between groups of employees whose supervisor did not change ( $n = 298$ ) and employees whose supervisor changed ( $n = 248$ ) in the merger transition.

Model	$\chi^2$	df	CFI	TLI	RMSEA	SRMR	$\Delta\chi^2$	p
Configural <sup>a</sup>	1947.30***	1386	0.958	0.953	0.039	0.045		
Weak invariance between groups <sup>b</sup>	1991.65***	1426	0.958	0.954	0.038	0.054	44.87	0.275
Weak invariance between groups and over time <sup>c</sup>	2005.69***	1440	0.958	0.955	0.038	0.051	14.09	0.443
Strong invariance between groups <sup>d</sup>	2055.89***	1480	0.957	0.955	0.038	0.056	49.82	0.137
Strong invariance between groups and over time <sup>e</sup>	2090.43***	1494	0.956	0.954	0.038	0.055	36.02	0.001
Partial strong invariance between groups and over time <sup>f</sup>	2074.44***	1493	0.957	0.955	0.038	0.055	18.58	0.137

Note. CFI = comparative fit index, TLI = Tucker-Lewis fit index, RMSEA = Root mean square error of approximation, SRMR = standardized root mean square residual.

<sup>a</sup> A model without constraints.

<sup>b</sup> A model with item loadings set equal between groups.

<sup>c</sup> A model with equal item loadings between groups and over time (i.e., Time 1, Time 2, and Time 3).

<sup>d</sup> A model with equal item loadings between groups and over time, and item intercepts between groups.

<sup>e</sup> A model with equal item loadings between groups and over time, and item intercepts between groups and over time.

<sup>f</sup> Same as previous model with the exception that top management reliability item 4 intercept is not constrained equal over time.

CFI = 0.87, TLI = 0.86, RMSEA = 0.07, SRMR = 0.09, provided support for distinctiveness of these two measurements.

Next, we tested for measurement invariance of the three-factor model between groups and over time (see Table 3 for model fit indices of all tested models). By establishing measurement invariance, we ensure the measurements are not interpreted differently among those whose supervisor changed and those whose did and at different phases of the merger processes, which could impact the main findings concerning between-group differences and over time relationships (Ferrer et al., 2008; Kline, 2011; Little, 2013; Vandenberg & Lance, 2000). As shown in Table 3, we were able to establish partial strong invariance (i.e., equal factor loadings and item intercepts), by estimating one item intercept (top management reliability item 4) freely over time. Thus, the model presented sufficient indication of measurement invariance over time (e.g., Byrne, 2012; Little, 2013), warranting further examination of our model.

As a final step of preliminary analyses, we investigated the means and standard deviations of latent change scores in trust in supervisor. The means represent the amount and direction that individuals' trust in their supervisor changed on average, while standard deviation indicates the between-person variability in the within-individual changes. For those employees whose supervisor changed between Time 1 and Time 2 ( $n = 248$ ), overall trust in supervisor decreased statistically significantly from Time 1 to Time 2 on average,  $M = -0.22$ ,  $p = .009$ ,  $SD = 1.29$ , while there was no statistically significant overall change on average from Time 2 to Time 3,  $M = -0.09$ ,  $p = .201$ ,  $SD = 0.82$ . For the group of participants whose supervisors did not change, the latent change score mean estimates indicate that trust in supervisor did not change on average from Time 1 to Time 2,  $M = 0.00$ ,  $p = .963$ ,  $SD = 0.87$ , while from Time 2 to Time 3 trust decreased statistically significantly,  $M = -0.13$ ,  $p = .019$ ,  $SD = 0.78$ . The standard deviations indicated between-person variability in the within-individual changes, which supported moving to multivariate analyses of examining possible antecedents of these between-person differences in the within-person changes in supervisory trust.

### Hypothesis testing

In order to test our hypotheses, we estimated two latent change score models. In the first model, we tested Hypothesis 1. Hypothesis 1a stated that supervisors' outgroup membership would be negatively associated with changes in trust in a supervisor among those whose supervisors changed. To test this, we estimated paths from supervisors' outgroup membership to changes in trust across the measured two time spans, i.e., from Time 1 to Time 2 and from Time 2 to Time 3. The model fit indices of all tested hypothesized models are given in their respective figures (see Figs. 3 and 4).

As shown in Fig. 3, there was a negative path estimate on initial trust formation (i.e., supervisory trust change from Time 1 to Time 2;  $\beta = -0.54$ ,  $p < .001$ ) while there was no statistically significant path on subsequent trust development (i.e., supervisory trust change from Time 2 to Time 3;  $\beta = -0.02$ ,  $p = .904$ ). Therefore, the data provided partial support for Hypothesis 1a in showing that new supervisors' was negatively associated with changes in subsequent trust. To test Hypothesis 1b which stated that supervisors' outgroup membership prior to the merger would be more strongly associated with initial trust formation (from Time 1 to Time 2) than with subsequent trust development (from Time 2 to Time 3) among those whose supervisor changed, we conducted a chi-square model comparison analysis. In this analysis, we compared the following two models: a model with no equality constraints (i.e., the model shown in Fig. 3) and a model where the paths from supervisor pre-merger group membership to initial supervisory trust formation (Time 1-Time 2) and subsequent trust development (Time 2-Time 3) were set equal. The model in which the path estimates were set equal over time resulted in statistically significant decrease in model fit in comparison to a model in which the paths were estimated freely,  $\Delta\chi^2(1) = 10.35$ ,  $p = .001$ . These findings provided support for Hypothesis 1b in showing that the path coefficient for trust formation was stronger than the path coefficient for trust development.

In the second model, we tested Hypotheses 2 and 3 by estimating a multigroup latent change score model (Fig. 4). In this model, we estimated hypothesized relationships from outgroup attitudes and top management reliability to changes in supervisory trust for both groups — that is, those whose supervisors changed between Time 1 and Time 2 (i.e., treatment group; Fig. 4a) and whose supervisor did not change (i.e., control group; Fig. 4b).

In Hypothesis 2a, we predicted that favorable outgroup attitudes would be positively related to changes in supervisory trust (i.e., from Time 1 to Time 2, and from Time 2 to Time 3) among those whose supervisor changed. As shown in Fig. 4a, for those who experienced a supervisor change, outgroup attitudes were positively related to initial trust formation (i.e., supervisory trust change from Time 1 to Time 2;  $\beta = 0.18$ ,  $p = .003$ ), but not to subsequent trust development (i.e., supervisory trust change from Time 2 to Time 3;  $\beta = 0.06$ ,  $p = .474$ ). These findings provide support for Hypothesis 2a by indicating that the more favorable employees' outgroup attitudes were at Time 1, the more supervisory trust increased from Time 1 to Time 2 among those whose supervisor changed.

A model comparison analysis showed that a model with these path estimates set equal over time (i.e., a path from outgroup attitudes Time 1 to supervisory trust change from Time 1 to Time 2, and a path from outgroup attitudes Time 2 to supervisory trust change from Time 2 to Time 3) resulted in statistically significant decrease in model fit,

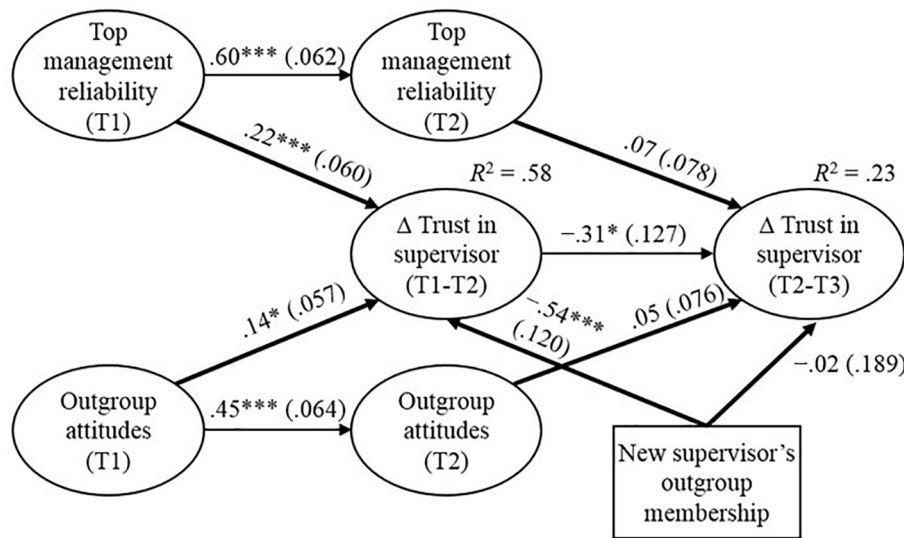


Fig. 3. Latent change score model for those employees whose supervisor change (n = 248). New supervisor's outgroup membership coded as 0 = same pre-merger organization as participant's 1 = other pre-merger organization than participant's. Standardized path estimates are presented with standard errors in the parentheses. Tested hypothesized paths are bolded. Symbol Δ indicates a latent change score. For clarity, excluded from the figure are trust in supervisor levels, control variables (pre-merger organization and outcome favorability), latent factors' item, and within-time covariances among latent variables among variables.

$\chi^2(891) = 1318.28, p < .001, CFI = .934, TLI = .930, RMSEA = .044, SRMR = .088$

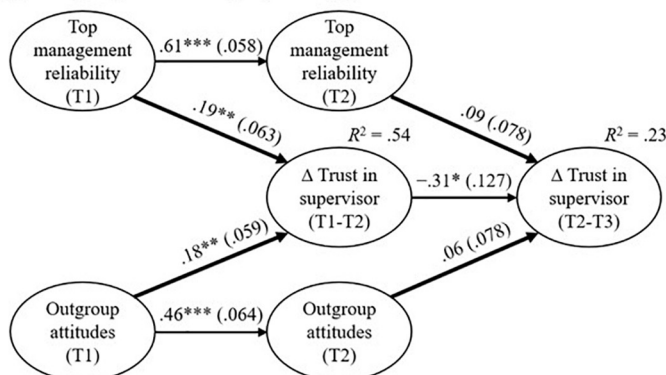
$\Delta\chi^2(1) = 4.29, p = .038$ . These results indicate that for employees who experience a supervisory change, prior favorable outgroup attitudes are more strongly related to initial supervisory trust formation (from Time 1 to Time 2) than to subsequent trust development (from Time 2 to Time 3), therefore supporting Hypothesis 2b.

In Hypothesis 2c, we expected that change in supervisor would accentuate the relationship from outgroup attitudes to changes in trust in supervisor from Time 1 to Time 2. To test this, we conducted a model comparisons between the freely estimated model (as shown in Fig. 4), and a model wherein the paths from outgroup attitudes Time 1 to supervisory trust change from Time 1 to Time 2 were set equal between both examined groups: those whose supervisors changed, and those whose supervisors did not change. Supporting H2c, the latter constrained model resulted in statistically significant worse model fit,  $\Delta\chi^2(1) = 15.24, p < .001$ , indicating that for those whose supervisor changed, prior favorable outgroup attitudes are more strongly related to initial trust formation (from Time 1 to Time 2) than for those whose supervisor did not change (supporting H2c).

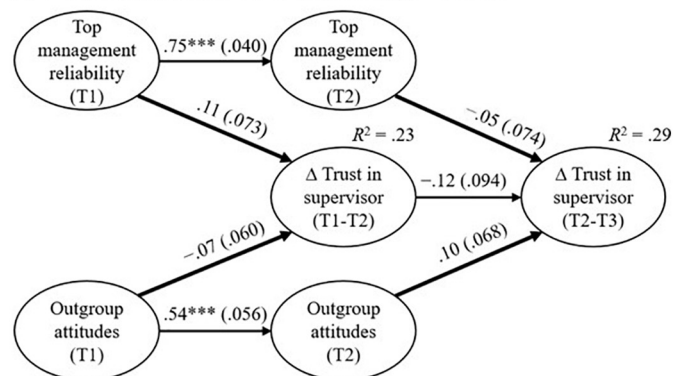
As hypothesized in H3a, we expected top management reliability to be positively related to trust changes in supervisor (i.e., from Time 1 to Time 2, and from Time 2 to Time 3) among those whose supervisor changed. As shown in Fig. 4a, top management reliability was positively related to initial trust formation ( $\beta = 0.19, p = .002$ ), but not to subsequent trust development ( $\beta = 0.09, p = .237$ ). However, the difference in these path estimates was not found to be statistically significant by a targeted model comparison analysis. Specifically, a model comparison analysis wherein a freely estimated model (as shown in Fig. 4a) was compared to a model where these paths were set equal over time (i.e., a path from top management reliability Time 1 to supervisory trust change from Time 1 to Time 2, and a path from top management reliability Time 2 to supervisory trust change from Time 2 to Time 3) did not result in statistically significant difference between the two models,  $\Delta\chi^2(1) = 1.84, p = .175$ . Therefore, Hypothesis 3b was not supported.

Hypothesis 3c asserted that supervisory change would accentuate the relationship from top management trust on changes in supervisory

(a) Group: supervisor changed (n=248),  $\chi^2 = 1277.88$



(b) Group: supervisor did not change (n=298),  $\chi^2 = 1332.02$



$\chi^2(1739) = 2609.90, p < .001, CFI = .938, TLI = .936, RMSEA = .043, SRMR = .086$

Fig. 4. Multi-group latent change score model. Both groups are estimated in a single model. Results for those whose supervisor change (n = 248) are presented in the upper model, and in the model below results for those whose supervisor did not change (n = 298). Standardized path estimates are presented with standard errors in the parentheses. Hypothesized paths are bolded. Symbol Δ indicates a latent change score. For clarity, excluded from the figure are trust in supervisor levels, control variables (premerger organization and outcome favorability), latent factors' item, and within-time covariances among latent variables among variables.

trust from Time 1 to Time 2. A model comparison analysis between the freely estimated model (as shown in Fig. 4), and a model wherein the paths from top management reliability Time 1 to supervisory trust change from Time 1 to Time 2 were set equal between both examined groups (i.e., those whose supervisors changed, and those whose supervisors did not change), did not result in statistically significant difference between the models,  $\Delta\chi^2(1) = 1.76$ ,  $p = .184$ . Thus, Hypothesis 3c was not supported.

Finally, we conducted parallel analyses in which we included those respondents who have completed the survey at least twice (at T1 and T2 or at T2 and T3) but not all three surveys. These analyses have the benefit that they are based on larger data ( $n = 544$ ;  $n = 1252$ ) but the disadvantage that they lack within-person control. Results provided equal support for all the tested hypothesis compared to our original analyses (all results are reported in Appendix 2, Fig. 1 and Fig. 2).

#### Additional analyses

As the current study is one of rare studies that examined the developing relationship between a subordinate and a new supervisor, we conducted additional post-hoc analyses to further explore potential antecedents of trust in the new supervisor. Specifically, existing research suggests that individuals with high-quality relationships with their former leader express stronger negative reactions towards leaders following leader successions (Ballinger et al., 2009; Ballinger & Schoorman, 2007). Translated to the context of our study, trust in the former leader (supervisor) at Time 1 can be seen as an indicator of a high-quality relationship, which then may plausibly be negatively related to the subsequent development of trust in the new leader (supervisor) (i.e., a negative reaction after leader succession). However, additional analyses did not reveal such negative relationships but rather pointed into the opposite direction. First, the association from trust in former supervisor (T1) to trust in new supervisor (T2) was positive but did not reach conventional levels of statistical significance ( $\beta = 0.15$ ,  $p = .086$ ). Furthermore, trust in the former supervisor (T1) was positively related ( $\beta = 0.25$ ,  $p = .008$ ) to the development of trust in the new supervisor (T2-T3). Thus, the more the former supervisor was trusted, the more trust increased towards the new supervisor, pointing to a generalization of trust experiences across supervisors (cf. Sluss & Ashforth, 2008).

Moreover, based on previous research (Levin et al., 2006) we tested whether demographic dissimilarity in terms of gender is related to trust development among those employees whose supervisor changed. There was no statistically significant path from gender dissimilarity on initial trust formation (i.e., supervisory trust change from Time 1 to Time 2;  $\beta = -0.12$ ,  $p = .262$ ), while there was a negative path estimate on subsequent trust development (i.e., supervisory trust change from Time 2 to Time 3;  $\beta = -0.34$ ,  $p = .025$ ). We also conducted a chi-square model comparison analysis that compared the following two models: a model with no equality constraints and a model where the paths from supervisor gender dissimilarity to initial supervisory trust formation (Time 1-Time 2) and subsequent trust development (Time 2-Time 3) were set equal, and it did not result in statistically significant difference between the models,  $\Delta\chi^2(1) = 0.54$ ,  $p = .463$ . Thus, there was some evidence that gender dissimilarity may be related trust development but its relative importance did not significantly vary in the different phases of the relationship.

Out of the eight main hypotheses examined previously, Hypothesis 1a can also be tested by conducting DID analyses within the treatment group ( $n = 248$ ). The results from these additional analyses suggested that due to the supervisor's group membership, there was a marginally significant change in supervisory trust from Time 1 to Time 2 ( $\beta = -0.12$ ,  $p = .068$ ), but not from Time 2 to Time 3 ( $\beta = 0.05$ ,  $p = .490$ ), thus indicating partial support for Hypothesis 1a proposing that new supervisor's outgroup membership prior to the merger will be negatively associated with changes in trust in a supervisor.

## Discussion

In the present research, we tested ideas derived from the literature on initial trust (McKnight et al., 1998) and the convergence model (Sluss & Ashforth, 2008) by examining the associations between merger-specific trust cues and the development of post-merger trust in new supervisor. We found that employees' new supervisor's outgroup membership (when a new supervisor originated from the other pre-merger organization) was negatively related to trust in the new supervisor, while their favorable outgroup attitudes and perceptions of top management reliability were positively related to the development trust in the new supervisor. Our study represents the first exploration of heuristic trust factors that explain trust-formation in supervisory relationships during a larger merger transition. In addition, the quasi-experimental, longitudinal design of our study allowed us to shed light on the extent to which changes in supervisory trust varied between different phases of the new relationships, a contribution that is unique in the literature on trust development.

#### Strengths and limitations of our quasi-experiment

In their comprehensive review of multi-level trust research, Fulmer and Gelfand (2012) conclude that previous research on interpersonal trust has relied heavily on laboratory experiments and correlational designs. Several researchers have suggested that future trust research (e.g., Fulmer & Gelfand, 2012; Searle, Nienaber, & Sitkin, 2018) and leadership research in general (e.g., Antonakis, 2017) would greatly benefit from quasi-experiments that provide a beneficial compromise between experimental control and real world relevance. Specifically, quasi-experiments include a variety of interventions in which random assignment is not possible or ethical, or in which changes to an independent variable are naturally occurring rather than manipulated (Grant & Wall, 2009). According to Grant and Wall (2009), quasi-experiments are extremely rare in applied psychology (less than 1% of all published articles between 1982 and 2006) and they continue to be so despite their obvious benefits and potential value. The same is true for the leadership literature where quasi-experiments are rare and underutilized (Podsakoff & Podsakoff, 2019). In this light, our study expands upon previous trust research in a highly meaningful way by using a quasi-experimental design and data that are rare and very difficult to obtain, which we do consider a clear methodological strength of the present work.

In our research design the modeled independent and dependent variables are endogenous, and most of them could be labelled as subjective perceptions or attitudes. Therefore, there are many potential omitted factors, which could be at play, thus threatening the precision of our estimates and precluding policy recommendation (Antonakis et al., 2010). For example, if a common cause (i.e., a variable associated with both independent and dependent variables) is omitted, analyses result in biased estimates. Although the list for all potential third causes, especially in the midst of restructuring, is quite a long one, it is worth mentioning that the treatment (i.e., supervisory change) was not found to have direct effects on our measured variables (see Research design). This suggests that the treatment itself was not a common cause for the examined variables. Nevertheless, the evidence has to be considered as correlational.

For this, it would be informative for future research to employ designs where the independent variables, such as context specific trust cues, are manipulated, and by this reduce the risk for biased estimates due to endogeneity. Out of the three independent variables examined in our study, the new supervisor's pre-merger group membership (in the treatment group) comes closest to the idea of experimental manipulation. Although this information was obtained by asking respondents from which of the two pre-merger organizations his or her new supervisor originated (and therefore it could be considered as self-reported subjective perception), we do not have a reason to believe that

this self-reported information would not be accurate, but rather that it resembles a condition in the study design.

Another limitation concerning the conclusions that we can draw from the study can be found in the statistically significant chi-square values of the estimated models. Thus, the estimates of the models may be biased (see Antonakis, 2017). As the complexity and the sample size of our study may make the rejection of the normal theory chi-square test more likely, we calculated the Swain-McNeish-Harring corrected chi-square values for our models to obtain more accurate estimates of model fit (McNeish & Harring, 2017). However, the Swain-McNeish-Harring corrected chi-square tests also indicated overidentification;  $\chi^2(891) = 1182.39, p < .001$  (Fig. 3),  $\chi^2(851) = 1135.04, p < .001$  (Group: supervisor changed in Fig. 4), and  $\chi^2(851) = 1183.16, p < .001$  (Group: supervisor did not change in Fig. 4). Regarding this, future studies would benefit from our observation that trust item 3 (I really wish I had a good way to keep an eye on my supervisor, *reverse coded*) presented a relatively low factor loading among those whose supervisors changed (see Table 2). Closer examination of the model estimates produced by Mplus (e.g., model modification indices, residuals) did not reveal other potential reasons for the failure of overidentification test. While our measures of trust are drawn from scales that have been identified as the most robust options in the literature (McEvily & Torterello, 2011), we would encourage trust researchers to report more details regarding their performance across groups and contexts so that these measures can be further refined.

It is important to keep in mind the differences between our design and other experimental designs in which the participants are randomly assigned to treatment and control groups. In our case, supervisory changes resulted from organizational restructuring where new supervisors were nominated in their positions based on a selection process. Although this is understandable (as an organization would be highly unlikely to allow researchers to randomize the nomination process of leaders for experimental reasons) it means that there are some limitations due to absence of randomization to assignment to treatment and control group. For example, in our case one potential reflection of this might be that in our sample there was a statistically significant difference (even though small) in Time 1 levels of trust in supervisor between the treatment group ( $M = 3.41$ ) and control group ( $M = 3.63, t = 2.73, p = .006$ ). Therefore, it is in principle possible that a part of the variance may be due to the selection process of new supervisors, and that less trusted supervisors may be more likely to have been replaced. Even though this may be the case, we took these issues into account in our analytical approach (using latent change score modeling), by correcting for possible group-differences in the pretest scores by setting means of supervisory trust at Time 1 to zero in both groups. Furthermore, as we regressed pre-manipulation scores of supervisory trust (i.e., Time 1) to change score in supervisory trust (i.e., from Time 1 to Time 2), we were able rule out any spurious within-group variation in the supervisory trust change score (see McArdle & Prindle, 2008).

According to Grant and Wall (2009) quasi-experiments are a viable option especially in situations where random assignment is not ethical. Therefore, and not surprisingly researchers have previously used quasi-experiments when studying the impact of various negative events such as involuntary job transfers (e.g., Keller & Holland, 1981), impoverished jobs (e.g., Hackman, Pearce, & Wolfe, 1978), or unfavorable contract changes (e.g., Parker, Griffin, Sprigg, & Wall, 2002). Studying supervisory changes may also comprise such ethical problems as breaking down existing social relationships and building new ones with randomized partners would potentially cause harm to employees. Given this, we believe that also in the future naturally occurring quasi-experiments have an important place in the methodological toolbox of researchers interested in changing subordinate-supervisor relationships.

Moreover, beyond issues related quasi-experimental design it is important to keep in mind that we were not able to examine the impact of personal trust cues in these leader-follower relationships.

Simultaneous investigation of personal trust cues (e.g. trustworthiness) would be valuable as it would allow us to examine the extent to which presumptive cues may give way to personal cues as times go by and as proposed in the prevailing initial trust theories (McKnight et al., 1998; McKnight & Chervany, 2006). Clearly, this is something that deserves more research in the future. For example, personal trust cues such as experiences of supervisory fair treatment (e.g., Ambrose & Cropanzano, 2003) or perceived supervisory support (Stinglhamber, De Cremer, & Mercken, 2006) are likely to be influential but their relative impact may depend on certain presumptive cues such as group membership (e.g., Smith, Tyler, Huo, Ortiz, & Lind, 1998). Moreover, it would be interesting to investigate how trust develops in situations entailing contradictory cues. Does one cue override another or is the outcome merely some form of relational ambivalence or indifference rather than trust or distrust (see Methot, Melwani, & Rothman, 2017)?

It is also important to note that the found relationships may differ in the contexts of mass layoffs often associated with mergers. In this regard, future work should examine the present relationships in the context of mass layoffs where greater uncertainty among survivors might amplify the extent to which individuals process and respond to trust-related information. Moreover, if layoffs are unevenly or unfairly targeted to the employees of the two pre-merger organization that might increase the predictive power of top management reliability and outgroup attitudes especially among those survivors originated from the dominated organization who are more sensitive to justice-related information (Lipponen et al., 2017).

Finally, as discussed in the method section we were unable to examine issues of nestedness of our respondents due to lack of information and the various ongoing structural changes that took place in the study context. Although nestedness is unlikely to be a major problem in this study we acknowledge that it is a limitation and that needs to be addressed in future work because studies have shown that ignoring the nesting of respondents can bias estimates and standard errors (e.g., Van den Noortgate, Opdenakker, & Onghena, 2005). Yet, at the same time we believe that these limitations must be assessed in the light of the several strengths of our research design.

### Theoretical implications

Results provide evidence that the pre-merger group membership of the new supervisor was associated with the extent to which employees developed trust in their new supervisor (in line with H1a and H1b). These results provide support for prevailing initial trust theories (e.g., Kramer & Lewicki, 2010; McKnight et al., 1998) and Williams' (2001) model of the role of group membership as a context for trust development—both of which have gone largely unstudied in the empirical literature. Although there are previous studies on the dynamics of in-group versus outgroup leaders, these are predominantly experimental (e.g., Abrams et al., 2013) or cross-sectional (e.g., Jiang et al., 2011). What remains open in these studies is insight into the longevity of these effects including implications for changes in trust across distinct phases (in trust formation and development). Our longitudinal study addresses these issues by not only confirming some of the previously found patterns but also by showing that the previously proposed effects of group membership are not necessarily lasting but that they diminish over time, suggesting we can unlearn existing social categorization effects over time in the wake of gaining new experiences. This aligns with the basic premise underlying presumptive and personal cues, and arguments that presumptive cues are important especially in the early phase of a new developing relationship (Kramer & Lewicki, 2010).

Our study is also informative in respect to Williams's (2001) model of group membership and trust development that draws from the same social categorization research tradition (e.g., Tajfel & Turner, 1986; Turner et al., 1987). Our results align with the general prediction made in Williams's (2001) model that ingroup members are more easily trusted. However, there are several other predictions of the model that



are still untested. Namely, dissimilar group memberships are argued to have negative, neutral, or positive influences on trust development *depending on the context* (Williams, 2001). For example, in the absence of real or symbolic competition between the two groups and under perceptions of high cooperative interdependence between the groups, dissimilar group memberships may have neutral or even positive effects. Although such conditions are likely to be rare in most organizational mergers — at least in the beginning of the merger process — it would appear to be important to take into account the role and development of perceived cooperative interdependence between the groups. Indeed, employees working in different functions in the new organization may perceive the intergroup context very differently in terms of competition and/or cooperative interdependence. In addition, the intergroup context may vary at different phases of the merger process and, thereby, the relative influence of similar versus dissimilar group memberships could also vary as a function of the context and phases. These are possibilities that would be important to examine in future research.

Furthermore, our findings support the notion that general attitudes towards the outgroup can serve as a heuristic cue for trust development in more specific, proximal relationships. Although the outgroup in our case was highly context specific (the other pre-merger organization), it is likely that in other contexts different social categories such as gender, ethnicity, or profession may be highly salient and define organizational life in a profound way. In addition, the relative importance of these categories may also vary temporarily, for example as a result of widely known incidences of discrimination against certain social groups. In our case the relationships between outgroup attitudes and outgroup membership and trust in the new supervisor were only temporary, and it is in principle possible that other social categorizations may have more long-lasting effects.

Our results provided partial support for the idea that perceived top management team's reliability is related to the development of trust with the new supervisor. This is in line with the initial trust model as perceptions of top management reliability may provide a structural assurance and cue for on situational normality (McKnight et al., 1998). However, our results showed that in this context, the categorization processes (i.e., supervisor's outgroup membership) were slightly more influential (see Fig. 3). This is not necessarily surprising in light of previous research showing that mergers often involve antagonistic relations between the merger partners (e.g., Gleibs et al., 2010). Moreover, one potential reason for why we obtained only partial support for top management reliability being related to trust in supervisor may be that the causal direction of this relationship may be more complex and nuanced than hypothesized in the present study.

In this respect, our study contributes to recent studies on trust transfer. Employees normally develop and maintain multiple trust relationships within the organization, making it likely that trust in one referent influences trust in another referent (Fulmer & Gelfand, 2012). Indeed, Fulmer and Ostroff's (2017) trickle-up model of trust in direct supervisors outlines a process in which an individual transfers his or her initial trust in a better known entity to a related, but lesser known, entity (see also Stewart, 2003). The idea behind this model is that as employees spend the majority of their work time with direct supervisors and see them as representatives of the organization, interactions with these supervisors are likely to trickle up to higher level but less familiar entities such as top management. Fulmer and Ostroff (2017) also presented empirical support for their model. Although directionality of the relationship between the two referents in their model (supervisor and top management) contrasts the directionality of the effects observed in our study, these two studies are not incompatible. Namely, in the context of our study the newly appointed supervisor is a lesser known entity and therefore the development of supervisory trust is affected by the information concerning other relatively more stable and therefore better known referents.

We do not see bottom-up and top-down influences as mutually

exclusive. As we noted in the introduction, the convergence model Sluss and Ashforth (2008) suggests that generalization across different targets occurs especially when two stimuli are temporally and/or cognitively tied together. In principle, the generalizing effect between supervisors and top management may be bidirectional, and it would be interesting to investigate under which conditions one of these two influences might be more powerful than another. For example, in accordance with the premises of the trickle-up model by Fulmer and Ostroff (2017) and in the context of our study when the supervisor remains the same (as in our control group) and when the top management team undergoes some changes (as took place in our setting), trust in supervisor could serve as a cue for whether or not top management is generally reliable. In fact, post hoc analyses of our data also show some preliminary evidence for such processes.<sup>1</sup> In sum, both our study and Fulmer and Ostroff (2017) study underline the importance of examining cross-level models in trust research as trust within any one level does not develop independently of factors at the other levels.

Our study also has interesting links to previous research on leader succession and especially to the theoretical model and empirical work on individual reactions to leadership succession in workgroups from Ballinger and colleagues (e.g., Ballinger et al., 2009; Ballinger & Schoorman, 2007). Although our study derives from the trust cue literature and was not designed to and cannot be considered as a test of that model, we draw some relevant implications. First, our additional analyses did not provide support for the model's proposition that a high-quality relationship with the former leader (at least when using trust in the former leader at Time 1 as a proxy for that) would act as a hindrance for the development of trust in new leader. Instead, positive association between trust in the former leader and the development of trust in the new leader were found in our data, which is more consistent with classic interdependence theory (Rusbult & Arriaga, 2000) that predicts that individuals serially form good relationships with supervisors. Second, recent studies on the contrast effects of new versus old leaders' proactive personalities (e.g., Lam et al., 2018) and transformational leadership style (e.g., Zhao, Seibert, Taylor, Lee, & Lam, 2016) seem to share the focus on the current versus former leader (as in Ballinger and Schoorman's model), but they do not elaborate on the contextual information that is highly relevant in mergers as we have seen here. Therefore, it would be important to combine the perspectives and investigate not only the relative importance of presumptive trust cues and the contrasts between old or new leaders in trust-development processes, but also how these contrasts may shape the interpretation (and also moderate the effects) of certain presumptive trust cues.

While in the current study we focused on merger-specific presumptive trust cues, we acknowledge that naturally there are other potential cues, which may as well predict trust development. However, our main and additional analyses nicely speak on behalf of taking contextual cues seriously. Namely, in the context of Levin et al. (2006) study same gender appeared to be a more significant cue than same age, while in our study shared pre-merger organization membership seemed to play an important role whereas gender similarity was relatively unimportant. We do share previously presented conclusions (Bstieler et al., 2017; Levin et al., 2006) that effects of demographic differences may depend on the context. This is also in line with basic ideas of social categorization theory (Turner et al., 1987) which holds that social categories and social identities become salient and are activated as a result of intergroup comparisons and the presence of *contextually relevant*

<sup>1</sup> Among those whose supervisor did not change, supervisory trust was positively related to within-person changes (i.e., latent changer score) in top management reliability from Time 1 to Time 2 ( $\beta = 0.13, p = .025$ ). However, this relation was not found from supervisory trust at Time 2 to changes in top management reliability from Time 2 to Time 3 ( $\beta = 0.09, p = .235$ ). Thus, the higher the supervisory trust at Time 1, the more the perceptions of top management's reliability increased between Time 1 and Time 2.

outgroups.

Finally, although not relating to the main hypotheses of our study, additional analyses showed no direct effects of supervisory change on subsequent supervisory trust (see DID analyses p. 18). In general, these results are in line with high initial trust models (e.g., McKnight & Chervany, 2006) utilized in our study, and contradict previous theorists (e.g., Blau 1964, Mayer et al., 1995; Rempel, Holmes and Zanna, 1985) who assumed that trust usually develops gradually over time. If trust relied solely on incremental growth on the basis of interactions that would predict significant drop in trust as a result of supervisory change. Our results suggest that supervisory change in itself may be less detrimental to employees' trust in their supervisors, than has been thought previously.

#### *Practical implications*

Although our study is not without limitations, we offer some tentative insights into the potential practical implications of our work. Our results suggest that our intergroup variables (supervisor pre-merger group membership and outgroup attitudes) were related to trust development, and importantly, that these associations decreased over time. Nominating outgroup leaders simply cannot be avoided during changes if leadership positions are to be filled based on qualifications instead of group memberships. As such, the slowly reducing impact of pre-existing group categories can be considered as good news, pointing to the evolution and malleability of group membership. However, when appointing new supervisors, upper-level management should be aware of these issues and prepare new supervisors that they may not be immediately accepted by outgroup subordinates, and that earning trust may require extra effort. In addition, supervisors should be aware that their subordinates may initially lean on trust cues that are partially outside of a supervisors' direct control. Given that ingroup members view outgroup members with suspicion, and tend to forgive transgressions by ingroup members (e.g., Abrams et al., 2013; Horwitz & Rabbie, 1989), supervisors who used to belong to "one of them" (the partner organization) should be especially sensitive to issues of group membership at early stages. Since biases are often activated without one's awareness or intentional control (Greenwald & Krieger, 2006), supervisors should be sensitive to not giving impression that they are favoring their own ingroup in decision-making, allocation of resources, and the adoption of practices from their own premerger organizations.

Similarly, it is likely to be important to avoid feeding employees potentially negative attitudes towards the employees of the merger partner (e.g., information suggesting ingroup superiority, outgroup inferiority, or a combination of these two) as this may hinder the development of trust with new supervisors. We are aware that this would be rather challenging especially in context where large layoffs are expected and when employees may be very sensitive to issues of how layoffs are targeted between merger partners. Nevertheless, during a merger, outgroup attitudes can be developed in a more favorable direction by promoting the sense of common ingroup identity (Gaertner, Dovidio, Anastasio, Bachman, & Rust, 1993) within the newly formed organization by adopting fair change management procedures (e.g., Lipponen et al., 2017). Cultivating top management reliability as a continuous practice well before dramatic restructurings may not only improve organization's general readiness to change but also make it easier to build new trusting relationships at a later date.

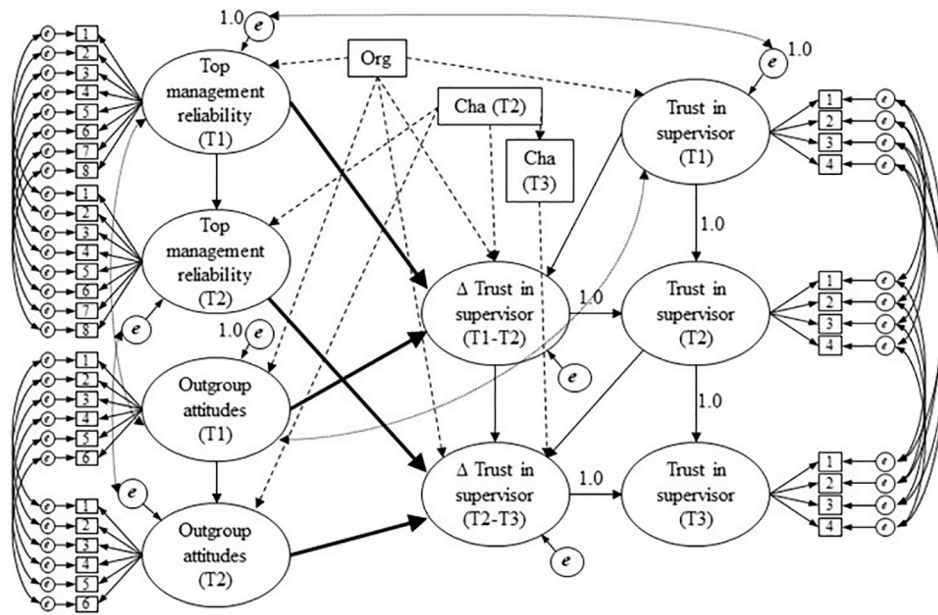
#### **Conclusion**

In the present research, we found support for the idea that merger-specific trust cues in the form of new supervisors' group membership, attitudes towards the merger partner, and top management reliability were associated with trust in the newly assigned supervisor during an organizational merger process. The findings reported here advance not only the organizational trust literature but also add to literature on leader succession by being the first to shed light on the unfolding impact of changes in supervisors on subsequent development of trust in new supervisors. Our findings are based on a quasi-experimental design and rare longitudinal field data that suggests that contextual trust cues are especially important in the early phase of the merger with diminishing importance as the merger unfolds.

#### **Acknowledgements**

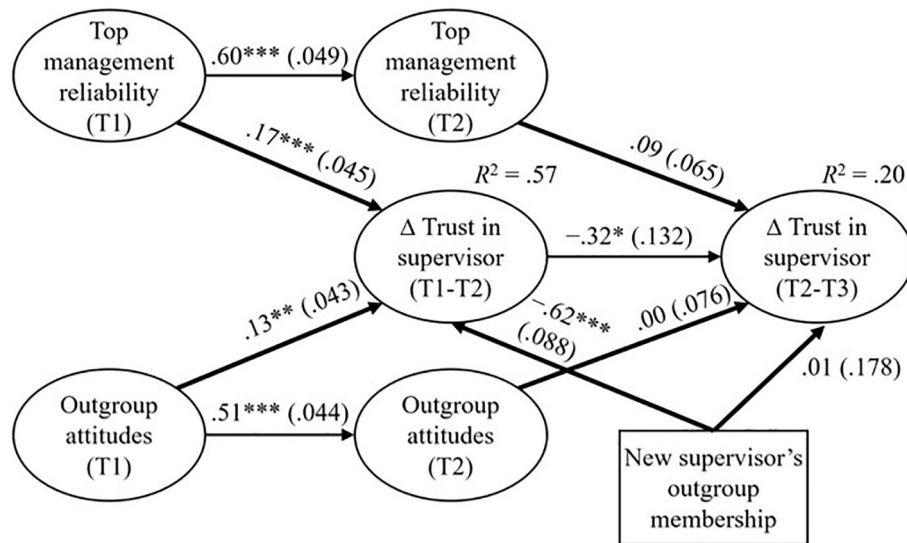
This research was supported by the Finnish Work Environment Fund, Grant 113090 awarded to Jukka Lipponen and Grant 115306 awarded to Janne Keltainen. We thank Jarno Turunen, Pierangelo Rosati and Damien Dupre for their help in statistical analyses, and we also thank Marko Hakonen and Olli-Jaakko Kupiainen for their central role in the research project.

## Appendix 1



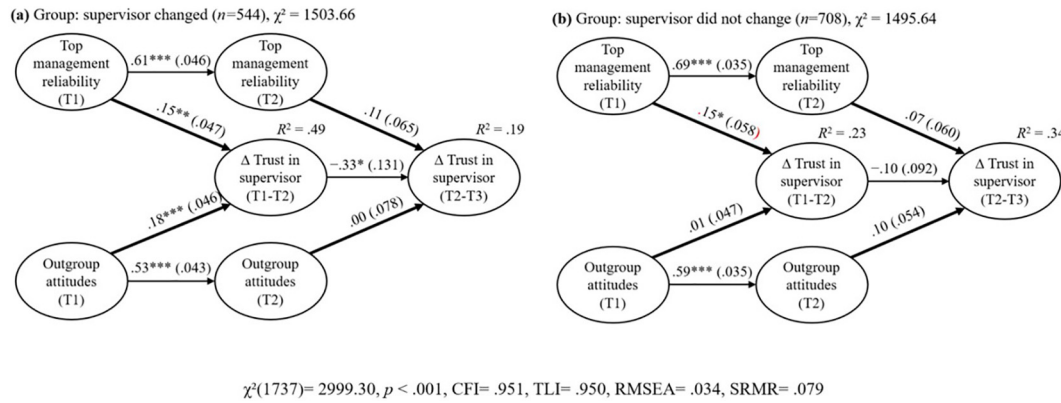
**Appendix 1 Fig. 1.** The description of the estimated latent change score model in Fig. 4. T1 = Time 1; T2 = Time 2; T3 = Time 3; org = Participant's pre-merger organization; cha = Change outcome favorability. Disturbances are marked by *e*. Latent change factors are marked by  $\Delta$ . Dashed lines represent paths estimated from control variables (pre-merger organization and change outcome favorability). Paths and disturbances marked by "1.0" are fixed to 1 (for latent variable disturbances, this is done for model identification purposes). Excluded from the figure for clarity are equality constraints of factor loadings and item intercepts, which have been set equal over time and between groups (for details, see Table 4 and Preliminary Analyses).

## Appendix 2



$$\chi^2(891) = 1515.80, p < .001, CFI = .944, TLI = .941, RMSEA = .036, SRMR = .080$$

**Appendix 2 Fig. 1.** Latent change score model for those employees whose supervisor changed ( $n = 544$ ). New supervisor's outgroup membership coded as 0 = same pre-merger organization as participant's, 1 = other pre-merger organization than participant's. Standardized path estimates are presented with standard errors in the parentheses. Tested hypothesized paths are bolded. Symbol  $\Delta$  indicates a latent change score. For clarity, excluded from the figure are trust in supervisor levels, control variables (pre-merger organization and outcome favorability), latent factors' items, and within-time covariances among latent variables.



**Appendix 2 Fig. 2.** Multigroup latent change score model. Both groups are estimated in a single model. Results for those whose supervisor changed ( $n = 544$ ) are presented in the model A, and in the model B results for those whose supervisor did not change ( $n = 708$ ). Standardized path estimates are presented with standard errors in the parentheses. Hypothesized paths are bolded. Symbol  $\Delta$  indicates a latent change score. For clarity, excluded from the figure are trust in supervisor levels, control variables (premerger organization and outcome favorability), latent factors' items, and within-time covariances among latent variables

### Appendix 3

Appendix Table 1

Means, standard deviations, Cronbach alphas, and zero-order correlations for full sample ( $N = 546$ ).

Variable	Scale	M	SD	$\alpha$	Correlations											
					1	2	3	4	5	6	7	8	9	10	11	12
1. Trust in supervisor (T1)	1–5	3.53	0.95	0.80	–											
2. Trust in supervisor (T2)	1–5	3.47	0.95	0.81	0.38***	–										
3. Trust in supervisor (T3)	1–5	3.36	0.94	0.78	0.38***	0.59***	–									
4. Top management reliability (T1)	1–5	2.99	0.84	0.84	0.25***	0.25***	0.23***	–								
5. Top management reliability (T2)	1–5	2.79	0.80	0.83	0.25***	0.31***	0.25***	0.65***	–							
6. Outgroup attitudes (T1)	1–7	4.89	0.93	0.92	0.14**	0.16***	0.17***	0.20***	0.24***	–						
7. Outgroup attitudes (T2)	1–7	4.86	0.93	0.92	0.15***	0.27***	0.24***	0.14**	0.23***	0.50***	–					
8. Outcome favorability (T2)	1–7	3.45	1.50	–	0.10*	0.20***	0.18***	0.26***	0.35***	0.14**	0.18***	–				
9. Outcome favorability (T3)	1–7	3.53	1.42	–	0.13**	0.30***	0.31***	0.24***	0.33***	0.12**	0.16***	0.32***	–			
10. Participant's pre-merger organization	0/1	0.43	0.50	–	–0.01	–0.05	–0.03	0.31***	0.22***	–0.08	–0.08	0.04	0.00	–		
11. New supervisor's outgroup membership <sup>a</sup>	0/1	0.10	0.31	–	–0.08	–0.18***	–0.13**	0.02	–0.02	–0.07	–0.15***	–0.01	–0.03	–0.04	–	
12. Supervisory change <sup>b</sup>	0/1	0.45	0.50	–	–0.12**	–0.14**	–0.12**	–0.08	–0.10*	–0.01	–0.08	–0.08	–0.02	–0.02	0.32***	–

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

<sup>a</sup> New supervisor's outgroup membership coded as 0 = same pre-merger organization as participant, 1 = different pre-merger organization than participant.

<sup>b</sup> Supervisory change coded as 0 = did not change; 1 = did change.

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